

ABSTRACT

Methods, devices and systems for generating ultrashort optical linear chirped pulses with very high power by amplifying the pulses so that their temporal duration is longer than the storage time of the amplifying medium. The additional gain factor is  
5 related to the ratio of the storage time to the stretched pulse. A preferred embodiment connects a mode locked laser source that generates optical pulses whose duration is stretched with a chirped fiber Bragg grating. Embodiments include methods, devices and systems causing an extreme chirped pulse amplifier (XCPA) effect in an oscillator.